

## Supplementary Online Content

Rome BN, Tessema FA, Kesselheim AS. US spending associated with transition from daily to 3-times-weekly glatiramer acetate. *JAMA Intern Med*. Published online July 20, 2020. doi:10.1001/jamainternmed.2020.2771

**eTable 1.** Six Glatiramer Products Available During Study Period

**eTable 2.** Data Sources Used to Estimate Quarterly Glatiramer Use

**eTable 3.** Changes in US Glatiramer Spending Trends After Limited and Full Generic Competition

This supplementary material has been provided by the authors to give readers additional information about their work.

**eTable 1: Six Glatiramer Products Available During Study Period**

<b>Quarter Launched</b>	<b>Brand-Name or Generic</b>	<b>Manufacturer</b>	<b>Dosing Frequency <sup>a</sup></b>	<b>Source of Price Estimates</b>
1996 Q4 <sup>b</sup>	Brand-Name	Teva	Daily	Net Price from SSR Health
2014 Q1	Brand-Name	Teva	Three Times Weekly	
2015 Q2	Generic	Sandoz	Daily	Wholesale acquisition cost (i.e. “list price”) from First Data Bank <sup>c</sup>
2017 Q4	Generic	Mylan	Daily	
2017 Q4	Generic	Mylan	Three Times Weekly	
2018 Q1	Generic	Sandoz	Three Times Weekly	

<sup>a</sup> The 20mg/mL versions of the drug are approved for daily administration, and the 40mg/mL versions for three-times-weekly use

<sup>b</sup> While brand-name glatiramer was first launched in 1996, our study period began in 2011

<sup>c</sup> Generic drugs typically do not have manufacturer rebates (except in Medicaid) so the list price approximates actual price paid by most payers

**eTable 2: Data Sources Used to Estimate Quarterly Glatiramer Use**

	<b>Data Source</b>	<b>Description of Data Source</b>	<b>Years Available</b>	<b>Data Used in Analysis</b>	<b>Estimated Share of US Glatiramer Use <sup>a</sup></b>
<b>US Glatiramer Use</b>	SSR Health	Estimates of US sales and prices for many brand-name drugs	2011-2019	Unit sales for brand-name glatiramer, per quarter	100% <sup>b</sup>
<b>Relative use of each glatiramer product</b>	Optum's de-identified Clinformatics® Data Mart Database	Claims from 17 million commercially insured and Medicare Advantage patients in all 50 US states	2011-2019	Sum of quantity (in dosage units) for brand-name and generic glatiramer pharmacy claims, per quarter	5%
	Medicaid State Drug Utilization Data	Summary of prescription drug use and spending reported by all state Medicaid programs	2011-2019	Sum of dosage units for brand-name and generic glatiramer, per quarter	5%
	Medicare Part D Drug Spending Dashboard	Summary of prescription drug use and spending reported by all Medicare Part D plans	2011-2018	Sum of dosage units for brand-name and generic glatiramer, per year <sup>c</sup>	30%

<sup>a</sup> Estimates are based on a comparison of brand-name glatiramer use in each data source to the overall US brand-name glatiramer use (from SSR Health). These estimates use data from 2011-2014, before the launch of any generic versions of glatiramer.

<sup>b</sup> SSR Health provides national estimates (100% of glatiramer use) for brand-name drugs only

<sup>c</sup> Annual estimates from Medicare Part D were converted to quarterly estimates, assuming constant use throughout the year

**eTable 3: Changes in US Glatiramer Spending Trends After Limited and Full Generic Competition**

<b>Source of Utilization Estimates</b>	<b>Period 1: Before Generic competition (2011 Q1 - 2015 Q1)</b>	<b>Period 2: Limited Generic Competition (2015 Q2 – 2017 Q3)</b>	<b>Period 3: Full Generic Competition (2017 Q4-2019 Q2)</b>
<b>Weighted Average</b>			
Intercept (95% CI)	646 (533, 758)	992 (908, 1077)	932 (844, 1020)
Δ Intercept (95% CI)		30 (-123, 184)	-46 (-155, 62)
P-value		0.69	0.37
Slope (95% CI)	19 (8, 30)	-1 (-15, 12)	-61 (-80, -41)
Δ Slope (95% CI)		-20 (-42, 2)	-59 (-82, -36)
P-value		0.08	<b>&lt;0.0001</b>
<b>Optum</b>			
Intercept (95% CI)	646 (532, 761)	971 (884, 1058)	899 (793, 1005)
Δ Intercept (95% CI)		9 (-147, 165)	-74 (-192, 44)
P-value		0.91	0.20
Slope (95% CI)	19 (7, 30)	0 (-14, 14)	-60 (-83, -36)
Δ Slope (95% CI)		-18 (-41, 4)	-60 (-85, -35)
P-value		0.11	<b>0.0002</b>
<b>Medicaid</b>			
Intercept (95% CI)	643 (530, 756)	996 (920, 1072)	1023 (898, 1149)
Δ Intercept (95% CI)		28 (-125, 180)	27 (-89, 143)
P-value		0.71	0.62
Slope (95% CI)	19 (8, 30)	0 (12, 12)	-73 (-101, -45)
Δ Slope (95% CI)		-19 (-41, 3)	-73 (-97, -48)
P-value		0.09	<b>&lt;0.0001</b>
<b>Medicare</b>			
Intercept (95% CI)	743 (619, 868)	1079 (986, 1172)	935 (852, 1018)
Δ Intercept (95% CI)		49 (-121, 218)	-80 (-218, 57)
P-value		0.56	0.23
Slope (95% CI)	17 (5, 29)	-6 (-21, 9)	-56 (-81, -31)
Δ Slope (95% CI)		-23 (-48, 2)	-50 (-88, -12)
P-value		0.07	<b>0.02</b>

Each column shows the linear model of total US spending on glatiramer for each of the 3 time periods in the study. All values are measured in millions of 2019 US dollars. Spending is estimated using 4 different use estimates (Optum, Medicaid, Medicare, and a weighted average). Slope values are change in spending per calendar quarter. Delta values represent the change in intercept or slope between the previous time period and the current time period from interrupted time series models.